

# DISTRICT MINING PLAN

## PALGHAR DISTRICT



Prepared by  
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July, 2019

## Preface

In exercise of powers conferred by section 15 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) and of all other powers enabling it in that behalf, the Government of Maharashtra hereby makes the rules, for regulating the extraction of Minor Minerals namely: These rules are the Maharashtra Minor Mineral Extraction (Development and Regulation) Rules, 2013.

In accordance of the Chapter IV (rule no. 58) of Maharashtra Minor Mineral Extraction (Development & Regulation) Rules 2013, which defines Grant of Quarry Permits for Minor Minerals; a committee has been formed in Palghar District to prepare District Mining Plan to ensure that the short term Quarry Permits are granted in accordance with the District Mining Plan, vide order No: Retigat/gaukh/t-2/Kawi-584/17 dt31.08.2017.

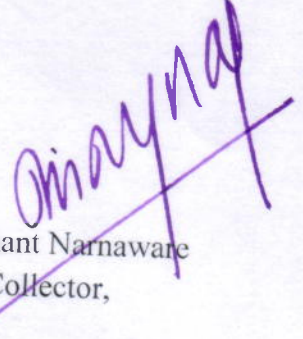
It is our pleasure and privilege to release the District Mining Plan for the District of Palghar. We thank all the members of the Committee for their valuable suggestions and for sparing time for finalization of this Mining Plan.

We are also thankful to the staff of the Mining Branch, Palghar for their contributions in the preparation of this District Mining Plan.

The District Mining Plan was submitted to the Collector Office, Palghar on 17 July 2019 and is now being released to the public for information.



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Dr. Prashant Narnaware  
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Dated: - 17/07/2019

**Amendment - 02**

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## 1. INTRODUCTION

The 21<sup>st</sup> century is the age of Development, development of Science, Technology and Infrastructure. All these ultimately result to the development of mankind and its standard of living. Taking about infrastructure, it cannot materialize without minerals found on the earth's Crust. However, using these valuable mineral wealth in a sustainable manner is the key long term positive development. Unfortunately, that's not the case. Many minerals, especially minor minerals like (basalt) rock and sand are exploited in an unregulated way since past decade. This leads to rapid exhaustion of essential raw mineral wealth and destruction of environment.

Finally, in 2013, Maharashtra Minor Mineral Extraction (Development and Regulation) Rules 2013 came into existence. In accordance of the Chapter IV (rule no. 58) of Maharashtra Minor Mineral Extraction (Development & Regulation) Rules 2013, which defines Grant of Quarry Permits for Minor Minerals; a committee has been formed in Palghar district under the chairmanship of District Collector, Palghar to prepare District Mining Plan to ensure that the short term Quarry Permits are granted in accordance with the District Mining Plan, vide order No: Retigat/gaukh/t-2/Kawi-584/17 dt31.08.2017.

This Committee basically defines the mining zones in a district.

The District Level Committee consists of the following members.

1. District Collector – Chairman
2. Regional Officer - Maharashtra Pollution Control Board -Member
3. Senior Geologist- Ground-Water Survey & Development Authority – Member
4. Deputy Conservator of Forest – Member
5. District Mining Officer – Member Secretary

As per the above directives, District Level Committee has submitted District Mining Plan of Palghar District as follows.

## 2. ABOUT PALGHAR DISTRICT

The Palghar district came into existence on 1<sup>st</sup> August 2014 after carving out 8 Tehsils from earlier undivided District of Thane. It is the 36<sup>th</sup> district of the state of Maharashtra in Konkan Division. Palghar district is the most North-Western district of the state of Maharashtra on the Arabian Sea coast. . It is spread between the west coast of the Arabian Sea and the Sahyadri Mountains rows that are east of the Northern District of Palghar. The district is bounded by Thane and Nashik Districts on the east and northeast, and by Valsad District of Gujarat state and Union Territory of Dadra and Nagar Haveli on the north. The Arabian Sea forms the western boundary, while Vasai-Virar is the only Metropolitan Region.

The total area and population as per 2011 census of the district is 5344 sq. km. & 29,90,116 respectively. It lies in between 19<sup>o</sup> 17' 15" to 20<sup>o</sup> 13' 45" Latitudes and 72<sup>o</sup>38'35" to 73<sup>o</sup>30' 25" Longitudes. District comprises of 8 revenue talukas i.e. Jawhar, Mokhada, Talasari, Palghar, Vasai, Vikramgad, Dahanu and Wada having it's headquarter at Palghar. There are 5 administrative subdivisions in the district. Total 477 Grampanchayat, 1008 Villages and 3818 Habitations in the district, out of that most of the area dominated by Tribal's.. District comes under the Tribal Areas of the state of Maharashtra. The main profession of the people is Agriculture; support with that people collects wood, Honey, Medical Herbs & lakhs from Jungle. In Coastal areas Fishing is main profession, with that horticulture farm of Chiku, Betel leaf, Mango and Coconut plant also there.

### Administrative Sub-Divisions & Tehsils of the District:

Palghar district comes under Konkan Administrative Division and the district comprises 5 sub divisions and 8 Tehsils. These are given below:

Sr. No	Name of Sub-Division	Name of Tehsil
1.	Palghar	Palghar
2.	Vasai	Vasai
3.	Dahanu	Dahanu
		Talasari
4.	Wada	Wada
		Vikramgad
5.	Jawhar	Jawhar
		Mokhada

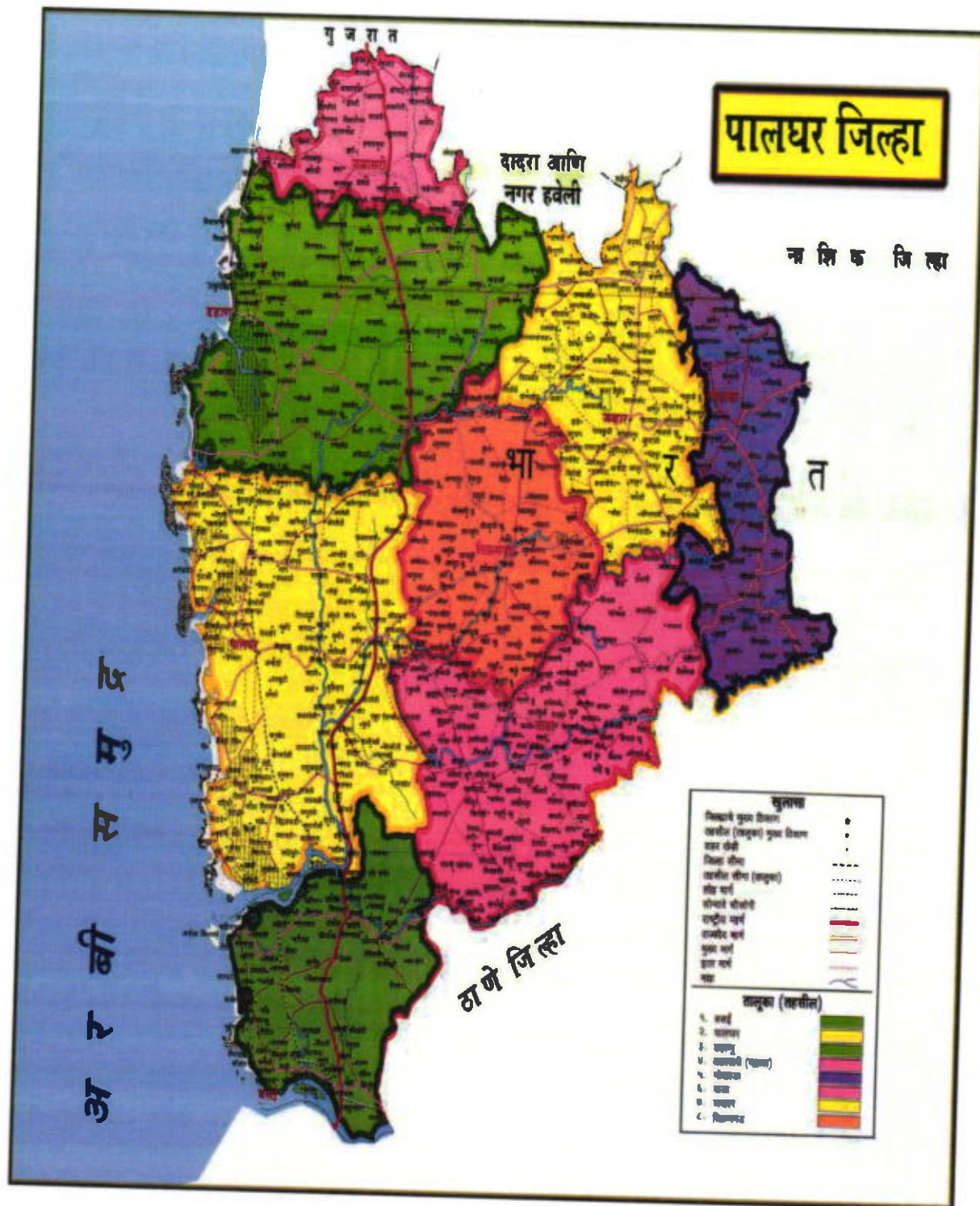


Fig 1- Map showing political divisions of Palghar District

### 3. PHYSIOGRAPHY

Physiographically, the district exhibits highly rugged and mountainous topography manifested by the north-south trending Sahyadri mountain ranges with steep scarp on the western side and gently undulating terrain known as Konkan plain bordering the Arabian Sea. The highest elevation is 662 m seen at about 18 km NE of Vasai while lowest elevation is 10mtrs at about 12 Km at SE of Dahanu.

The district is the northernmost part of the Konkan lowlands of Maharashtra. It comprises the wide amphitheatre like Ulhas basin on the south and hilly Vaitarna valley on the north together with plateaus and the slopes of Sahyadri. From the steep slopes of the Sahyadri in the east, the land falls through a succession of plateaus in the north and centre of the district to the Ulhas valley in the south. The distance from the parts of different palaces to headquarters Palghar by road is as follows: Khodala 138 km, Mokhada 112 km, Jawhar 75 km, Vikramgad 60 km.

The main river flowing through the district is the Vaitarna. The river has many tributaries; two important of them (within the boundaries of this district) are Barvi and Bhatsa. Vaitarna, the largest of Konkan Rivers rises in the Trimbak hills in Nashik district, opposite to the source of Godavari, The River flows across Shahapur, Vada and Palghar talukas and enter the Arabian Sea through a wide estuary off Arnala. Vaitarna River is 154 km long and has a drainage area that practically covers the entire northern part of the district. It has a number of tributaries; the most important of them are Pinjal, Surya, Daherja and Tansa. Ulhas River which flows to Arabian see is Vasai creek, district's southern border. Arnala Island is located in Vasai taluka, at the entrance to the Vaitarna estuary

Morphologically the district has been classified in to three groups.

a.	Hilly & Foot hill region-	Eastern part of Jawhar, Mokhada, Wada
b.	Moderately dissected & sloping area-	Vikramgad, Talasari & Central Part.
c.	Coastal area-	West part, Vasai, Dahanu, Palghar

#### 4. GEOLOGY

A major part of district is covered with basalt i.e. lava flows generally called as Deccan Trap. This volcanic activity was confined mainly to Lower Eocene to Upper Cretaceous age. Between two eruptions there was a time gap and during this period upper surface of flow subject to denudation and weathering. This time gap is marked by formation of Red bole and Ash beds. The upper surface of lava flows has generally vesicular structures caused by the escape of the gases and steams from molten lava. During the sudden cooling at the surface, joints and other openings developed. The upper surface of each flow therefore has a rough texture. Based on the megascopic structures and physical properties, basalts of the district can be classified into 1) Compact, Massive Basalt. 2) Vesicular Zeolitic Basalt 3) Porphyritic Basalt 4) Fractured and Jointed Basalt.

The thickness of Compact & Massive flows vary between 15 m to 20 m thickness of Fractured and Jointed flows vary between 5 to 8 meter. The thickness of vesicular zeolitic flows vary between 3 to 6 m and Porphyritic flows having thickness vary between 10 to 20 m. (Source: An appraisal of Hydrological Condition of Thane district) Stratigraphic sequences of the geological formation in the district is shown as below:-

<u>Formation</u>	<u>Age</u>	<u>Lithology</u>
Alluvium	Recent	clay, silt and sand
Beach sand	Recent	sand and silt
Laterite	Pleistocene	Laterite
Dykes	-----	Basic intrusion
Deccan traps basalt	Lower Eocene to Upper Cretaceous	basalt

The Deccan trap flows in the district are classified into 'Pahoehoe' and 'aa' and are normally aphyric to feldspar phyric. At places some of the feldspar phyric flows are highly porphyritic containing giant sized plagioclase feldspar. These megacryst flows are quite extensive and serve as reliable regional markers for grouping the flows into various formations. Three different Megacryst horizons viz. (M1, M2, M3) have been identified and on the basis of these marker horizons the lava pile has been divided into six formations. The lowermost selher formation comprises 11 aphyric flows. Upper Ratangarh formation comprising six



aphyric to felsic 'aa' flows appear next in the sequence. The uppermost Karla formation comprises of three compound Pahoehoe flows of aphyric in nature.

The basaltic pile of the area is profusely intruded by rocks of Borivali formation which includes dolerite and basaltic dykes, tuffs and agglomerates. The frequency of dyke much more north-western part where the N-S trending dykes is very conspicuous. Dykes trending in NW-SE, NE-SW & E-W are also observed. Frequency of dyke relatively less in South-eastern part.

Alluviums developed in the western part of the area along the coast and river courses and are lacustrine in nature. Along the coast, alluvium consists of clayey and mud deposits. The quality of water is slightly brackish and pumping from this formation has to be restricted to prevent ingress of seawater. The alluvium constitutes the potential aquifer in the area.